Subject Index, Volume 2 1988

Abies, 377
Abies balsamea, 381
Acacia xanthophloea, 11
Acacia zanthophloea, 11
Acadian flycatchers (*Empidonax virescens*), 346
Acanthocephalan parasite, 42
Acer rubrum (Red maple), 381
Acer spicatum (Mountain maple), 381
Acid precipitation
  forest habitats and, 249–251
  forest wildlife and, 251–256
Acinonyx jubatus, 71
Adelina triboli, 49
Adenostoma fasciculatum, 76
Africa, tsetse fly and, 57–64
African-style game ranch, 18
African trypanosomiasis, 58–59, 62
Agency for International Development (AID), 311
Ailurus fulgens, 71
Air pollution, effects on major ecosystems, 250–251
Alces alces, 254
American kestrel, 45
American redstarts (*Setophaga ruticilla*), 345–346
American robins (*Turdus migratorius*), 334
Amphibians. *See also specific amphibians*
Amphibians, acid rain and, 252–253
Anodorhynchus glaucus, 396
Anthropoides paradisea, 70–71
Aphlocoma coerulescens, 77
Appalachian biosphere reserve cluster, ecological genetics of salamander in, 194–203
Arabian oryx (*Oryx leucoryx*), 70
Arctic char (*Salvelinus alpinus*), 145
Arctocephalus spp., 269
Artemisia californica, 76
Arthropod-borne disease, 71
Aspen (*Populus* spp.), 381
Atlantic white cedar (*Chamaecyparis thyoides*), 382
Ateles paniscus, 268
Avian malaria, 71
Aythya collaris, 253

Badger (*Taxidea taxus*), 67
Balaena mysticetus, 265
Balsam fir (*Abies balsamea*), 381
Banteng (*Bos javanicus*), 70
Bay-breasted warblers (*Dendroica castanea*), 337, 381
Bay checkerspot butterfly (*Euphydryas editha bayensis*), long-term monitoring plan for, 367–373
Beech (*Fagus*), 377
Betula, 377
Betula cordifolia, 381
Betula uber, 380
Bighorn sheep, 52, 53, 71
Biological diversity
  conservation biologist role and, 398–401
  course-filter/fine-filter approach, 379–380
  edge effect and, 330–331
  legislative progress in United States, 311–313
  marine, 307–308
  paleoecological approach, 375–379
  physical environments and, 380–391
  public land agencies role and, 398–401
Birch (*Betula*), 377
Birds. *See also specific types of birds*
  acid precipitation and, 252–254
  chaparral-requiring, distribution of, 75–89
  common nesting, 334
  edge effect and, 336
  forest-interior, dynamics of, 340–346
  invading species of, 9
  neotropical migrant landbirds, 314
Bison, 20
Black-and-white warblers (*Mniotilta varia*), 337
Black-bellied salamander (*Desmognathus quadramaculatus*), ecological genetics, 194–203
Blackburnian warblers (*Dendroica fusca*), 337
Black duck (*Anas rubripes*), 253
Black-footed ferret (*Mustela nigripes*)
  canine distemper and, 66–72
  captive breeding season of, 11–12
  molecular genetic data for, 246
Blackpoll warbler (*Dendroica striata*), 381
Black sage (*Salvia mellifera*), 76
Black spider monkey (*Ateles paniscus*), 268
Blue-gray gnatcatcher (*Pilioptila caerulea*), 336, 337, 346
Blue jays (*Cyanocitta cirstata*), 337
Bluetongue virus, 71
Boiga irregularis, 37
Bongo (*Taurotragus eurycerus isaaci*), 70
Bos gaurus, 70
Bos javanicus, 70
Botflies (*Cuterebra grisea*), 45
Bovine tuberculosis, 29
Bowhead whale (*Balaena mysticetus*), 265
Breeding dippers (*Cinclus cinclus*), 255
British Electrophoresis Society, 13
Brook trout (*Salvelinus fontinalis*), 172, 173
Brown-headed cowbird (*Molothrus ater*), 331, 334, 341
Brown thrashers (*Toxostoma rufum*), 334
Brown tree snake, 37
Browsing, by deer, 351–353
Bucephala clangula, 253
Bufo bufo, 252
Bufo calamita, 251
Bumblebee bat (*Craseonycteris thonglongyai*), 269
Bureau of Land Management, 398–399
Burrowing parrot (*Cyanoliseus patagonus byroni*), 11

Butterflies, 49, 382
Butterfly (*Mitoura besseli*), 382
Buzzard, 49

Cadmium, 254
Caicos islands, 32
California gray whale (*Eschrichtius robustus*), 267
California sagebrush (*Artemisia californica*), 76
California sea otter, translocation of, 11
California thrasher, 85
Caloprymnus campestris, 396
Canada
  conservation achievements, 17–18
  game ranching in, 19, 20–21
  market-hunting in, 21–22
  private control over wildlife, 16
  wildlife production and economics, 22
Canada yew (*Taxus canadensis*), 348, 351
Canadian Wildlife Service, 20–21
Canine distemper, in black-footed ferrets, 29, 66–72
Canine parvoviral enteritis, 71
Canis latrans, 67
Capreolus capreolus, 254
Captive propagation rescue, 133
Cardinalis cardinalis, 335
Caribou
  commercial harvesting of, 16
  market-hunting of, 21–22
Carolina chickadees (*Parus carolinensis*), 336
Carpodacus mexicanus, 77
Catarrhal fever, 70
Catharus minimus, 381
Catharus ustulatus, 381
Cats, feral, 32, 48
Chaeropus ecaudatus, 396
Chamaecyparis thyoides, 382
Chamise (*Adenostoma fasciculatum*), 76
Chaparral-requiring birds, species vulnerability of, 84–86
Chapparal, 76
Cheetahs (*Acinonyx jubatus*), 71
Chestnut-sided warblers (*Dendroica pensylvanica*), 337
Cichlid fishes, 145–146
Chile, Pehuenche Hydroelectric Project, 11
Chysocyon brachyurus, 71
Cinclus cinclus, 255
CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora), 395–397
Climate change
  biologic diversity and, 376–377
  nature reserve design and, 391–393
Colaptes auratus, 77
Collared lemming (*Dicrostonyx torquatus*), 392, 393
Colobus monkeys (*Colobus quereza*), 71
Columba mayeri, 70
Commercial harvesting of fish, 146
Common flicker (*Colaptes auratus*), 77
Common frog (*Rana temporaria*), 252
Common goldeneye (*Bucephala clangula*), 253
Common grackles (*Quiscalus quiscula*), 334
Common loon (*Gavia immer*), 253
Common merganser (*Mergus merganser*), 253
Common toad (*Bufo bufo*), 252
Common yellowthroats (*Geothlypis trichas*), 336
Community conservation, for biologic diversity, 375, 379–382
Competition, 19–20
Comptonia peregrina, 381
Connochaetes sp., 70
Conservation biologist
  biological diversity and, 398–401
  description of, 237–238
Conservation International, 12
Conservation societies, 18
Contopus virens, 336
Convention for the Protection of Migratory Birds, 18
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 395–397
Corridors, 393
Cottontails (*sylvilagus floridanus*), 335
Coturnix coturnix japonica, 189
Coyote (*Canis latrans*), 67, 75, 78, 83–84, 139
Craseonycteris thonglongyai, 269
Cross-infection models, 35
Culex quinquefasciatus, 71
Cutthroat trout (*Salmo clarki*)
  conservation issues, 180–182
  genetic divergence, 172–174
  hatchery populations, 178–179
  interbreeding between taxa, 174–177
  population genetic structures, 177–178
  subspecies, 171–172
Cyanocitta cirstata, 337
Cyanoliseus patagonus byroni, 11
Cyathocotyl bushiensis, 50
Cyclura carinata, 32
Cynomys ludovicianus, 392
Cypress (*taxodium distichum*), 336
Cyprinodon diabolis, 160
Cyprinodon elegans, 164–165
Cyprinodon pecosensis, 164–165
Cystophora cristata, 269

Dama dama, 20, 251
Dasyornis broadbenti littoralis, 396–397
DDT, 60
Death Valley model, 159–161
Debt-for-nature swaps, 141
Deer
  diseases of, 19
  edge effects from, 348–355
Demographic stochasticity, in habitat subdivisions, 293
Dendroica castanea, 337, 381
Dendroica fusca, 337
Dendroica pensylvanica, 337
Dendroica striata, 381
Depletion, human exploitation of mammalian female-offspring and, 260–271
Desert aquatic systems, divergence, migration and gene flow, 158

Desert rat kangaroo (*Caloprymnus campestris*), 396
Desmognathus quadramaculatus, ecological genetics of, 194–203
Devil's Hole pupfish (*Cyprinodon diabolis*), 160
Dianthus deltoides, pollination success of, habitat fragmentation and, 359–365
Dicrostonyx torquatus, 392, 393
Dieldrin, 60
Disease
  conservation and, 28–30
  of deer species, 19
  definition of, 41
  endangered species and, 66–72
  host community structure and ecosystems, impact on, 49
  host populations, impact on, 47–49
  individual hosts, impact on, 42–46
  in wild animal populations, 49–51
Domestic ferrets (*Mustela putorius furo*), 67, 68
Drosophila, 189
Ducks, mortality, 50–51
Dumetella carolinensis, 334

Eastern chipmunk (*Tamias striatus*), 337, 392
Eastern hemlock (*Tsuga canadensis*), 348, 351–352
Eastern kingbird (*Tyrannus tyrannus*), 254
Eastern woodpewees (*Contopus virens*), 336
Echinococcus granulosus, 42
Ecosystems
  ecological classification of, 218–219
  major, in United States, 103–115
Ecotone, 330. *See also* Edges
Edge effect
  as barriers to distribution and dispersal, 336–337
  changes in wildlife communities and, 333–337
  of deer in northern Wisconsin, 348–355
  definition of, 330–331
  edge width and length and, 336
  evidence of, 334
  habitat fragmentation and, 337
  habitat-interior birds and, 345
  quantification of, 335
  on reproductive performance of forest-interior birds, 343
  spatial heterogeneity of, 335–336
Edges
  changes in wildlife communities near, 335–337
  definition of, 334
  dimensions, delineating of, 335
  environments of, climate change and, 393
  species of, defining, 334–335
  types, 334
Education, 235
Elaphostrongylus rangiferi, 45
Elaphurus davidianus, 70
Elephants, African, 268–269
Elk farm, 20
Empidonax virescens, 346
Endangered Species Act, habitat protection and, 116–118
Entamoeba invadens, 37
Environment
  contaminant sensitivity, as criteria for indicators, 320
  fluctuation, habitat subdivision and, 294–295
Environmental stress, immune system of animals and, 71
Eriogonum fasciculatum, 76
Eschrichtius robustus, 267
Eskimo curlew (*Numenius borealis*), 142
Eubalaena australis, 264–265
Eubalaena glacialis, 264–265
European Ecology Symposium, 314
European starlings (*Sturnus vulgaris*), 320
Exotics, game ranching, market hunting and, 19–20
Expenditures, wildlife-related, 23–24
Extant species, 395–397
Extinction
  causes of, 82–83
  contemporary, 314
  evidence for, 82
  human causes of, 260–271
  legal proof of, 395–397
  in subdivided habitats, 293–295

Fagus, 377
Fallow deer (*Dama dama*), 20, 251
Fasciola hepatica, 45
Federal lands, ecosystems on, 106–114
Feline infectious panleucopaenia, 35
Felis concolor, 337
Feral populations
  of cats, 32, 48
  conservation of, 297–299
  detection of disease in, 42
  impact of disease, 53
  of pigs, 8, 9
Fir (*Abies*), 377
Fish. *See also* Freshwater fishes; *specific types of fish*
  conservation biology of, 145–147
  diversity in reproduction and genetics, 146
  genotypic-phenotypic relationship in, 145–146
  protection of, 146–147
Forest habitats
  commercial regeneration of, 354
  degradation by acid rain, 255
  effects of acid precipitation, 249–256
  effects of acid precipitation on wildlife, 251–256
  neotropical, traditional resource use in, 313–314
Foxes (*Urocyon cinereoargenteus*), 45, 78, 83–84
Freshwater fishes. *See also specific types*
  conservation status of, 150
  Death Valley model, 159–161
  desert aquatic systems, 158
  faunal complexity in rivers, 153–154
  future management in southwest, 165–166
  patterns of distribution and abundance, 150
  species-area relationships, 150–152
  types of, 149–150
Fur Seal Treaty of 1911, 18

Game culling, 19

Game ranching
in Canada, 16, 19
disadvantages of, 19–21
in New Zealand, 18
Gavia immer, 253
Generalist, vs. specialist, 320–321
Genetic diversity
in desert fishes, 158–169
lack of, in *Howellia aquatilis*, 275–280
Genetic pollution, 20
Genetics
of *Desmognathus quadramaculatus*, 197–203
of habitat subdivisions, 293–294
Geopsittacus occidentalis, 396
Geothlypis trichas, 336
Germany
wildlife markets and protection, 21
wildlife production and economics, 22
Glaucous macaw (*Anodorhynchus glaucus*), 396
Goldeneye, 254
Gray catbirds, 334
Gray catbirds (*Dumetella carolinensis*), 334
Gray-cheeked thrushes (*Catharus minimus*), 381
Great crested flycatchers (*Myiarchus crinitus*), 336
Greater horseshoe bat (*Rhinolophus ferrumequinum*), 269
Greater Patagonian conure, 11
Great tit (*Parus major*), 189
Great white heron (*Ardea herodias*), 319
Grizzly bears (*Ursus arctos*), 337
Ground squirrels (*Spermophilus tridecemlineatus*), 337
Grus americana, 71
Grus aponensis, 71
Grus canadensis, 71
Grus canadensis pulla, 386–389
Grus monacha, 71
"Guild-indicator" approach, 318

Habitat
management, for deer in Upper Great Lakes region, 351
protection of, under Endangered Species Act, 116–118
quality, vertebrates as indicators of, 319–320
subdivision of, extinction and, 293–295
Habitat Evaluation Procedures (HEP), 317
Habitat fragmentation
for conservation of target species, 290–292
edge effect and, 337
in Mediterranean scrub habitats, 76
modeling dynamics of, 340–346
pollination success of *Dianthus deltoides*, 359–365
Habitat Suitability Index (HSI), 317–318
Hairy woodpeckers (*Picoides villosus*), 336
Harp seal (*Phoca groenlandica*), 269
Hawaiian Islands
bird species in, 49
invading species in, 9
Heligmosomoides polygyrus, 35, 42, 47
Hemlock (*Tsuga*), 377
Herbivores, deleterious edge effects, 349
Herpesvirus, 70–71
Himalayan musk deer (*Moschus chrysogaster*), 269
Hooded cranes (*Grus monacha*), 71
Hooded merganser (*Lophodytes cucullatus*), 253
Hooded seal (*Cystophora cristata*), 269
Hooded warblers (*Wilsonia citrina*), 346
Hosts
density of, 53
movement, impact of disease and infection on, 45–46
population, infection, disease and, 53
reproduction, impact of infection and disease, 45
survival, impact of infection and disease, 42–45
susceptibility of, 51–52
House finch (*Carpodacus mexicanus*), 77
Howellia aquatilis (*Campanulaceae*), lack of genetic diversity, 275–280
H.R. 4335 (National Biological Diversity Conservation and Environmental Research Act), 236, 311–313
Humans
exploitation of mammalian female-offspring bond, 260–271
population expansions, wildlife law violations in central Rocky mountains, 283–288
transmission of disease to animals, 71–72
Humpback whale (*Megaptera novaeangliae*), 265–267
Hunting
increased pressure in, effect on deer populations, 354
maternal behavior and, 270
paid, 16, 22–23
for sport, 17, 23
Hylocichla mustelina, 337, 346

Icteria virens, 334
Immigration, in fragmented habitat, 344–345
Immune system of animals, environmental stress and, 71
Inbreeding
cost of, 185–191
of cutthroat trout, 174–177
extinction in subdivided populations and, 294
Inclusion body disease, 70–71
Indian gaur (*Bos gaurus*), 70
Indian lands, ecosystems on, 106–114
Indicator species
definition of, 317–318
practical problems, 322–323
rigorous usage of, 323–324
selection criteria, ecological, 320–322
"Indirect effects", 402
Infection
definition of, 41
detection in host population, 41–42
host community structure and ecosystems, impact on, 49
host populations, impact on, 47–49
individual hosts, impact on, 42–46
Interagency Personnel Agreement program, 400
International treaties, 18
International wildlife markets, 24
Invading species
ecology of, 8–9
on oceanic islands, 31–32
Islands

avian extinctions and, 31
invading species and, 9–10
parasite populations, 32–33
IUCN Marine Program, 142
IUCN Tropical Rainforest Programme, 142

Japanese quail (*Coturnix coturnix japonica*), 189
Japanese white-eye (*Zosterops japonicus*), 9
Juniperus spp., 336

Kenya, National Museums of, 12
Kenyan National Park, Rothschild's giraffe, translocation of, 10–11
Kirtland's Warbler, 314

Landscape boundaries, 314
Leontopithecus rosalia, 246
Leopold, Aldo, changes in environmental management approach, 93–101
Lesser pandas (*Ailurus fulgens*), 71
Lethal equivalents, from inbreeding, 185–191
Lion tamarins (*Leontopithecus rosalia*), 246
Liver fluke, 45
Lizards, 45
Lophodytes cucullatus, 253
Lungworm pneumonia, 52
Lutra canadensis, 254
Lyme disease, 353

Maculina arion, 49
Maiden pink (*Dianthus deltoides*), effect of habitat fragmentation on pollination success, 359–365
Malaria, 45
Mammals. *See also specific mammals*
adverse effects of airborne pollutants, 251
maternal defense of, 261–264
threatened, exploitation of female-offspring bond, 268–270
Management Indicator Species (MIS), 318
Manchurian cranes (*Grus aponensis*), 71
Maned wolves (*Chysocyon brachyurus*), 71
Marianas fruit bat (*Pteropus mariannus*), 269
Marine biodiversity, 307–308
Marion island, feral cats on, 32, 35, 48
Market-hunting, disadvantages of, 19–22
Marsh rabbits (*Sylvilagus palustris*), 140
Masked shrews (*sorex cinereus*), 336
Maternal-offspring bond, disruption of, 260–271
Mauritius pink pigeon (*Columba mayeri*), 70
Maurua triphylla, 11
Meadow jumping mice (*Zapus hudsonius*), 337
Meadow voles (*microtus pennsylvanicus*), 336
Measles, 71
Megaptera novaeangliae, 265–267
Melospiza melodia, 334
Meningeal worm, 49
Mephitis mephitis, 67
Mercury levels, 254
Mergus merganser, 253
Mesopredator release, 75, 83–84
Metals, toxic, 254
Mexico, International symposium on biological diversity, 13
Mice
impact of infection and disease on population, 47–49
population dynamics, experimental, 33, 35
Microtus pennsylvanicus, 42, 336
Microtus townsendii, 45
Migration, habitat subdivision and, 294
Mink (*Mustela vison*), 67, 253, 254
Minnow (*Hybognathus nuchalis*), 154
Minor breeds, major genetic losses and, 297–299
Mirounga angustirostris, 269
Mirounga leonina, 269
MIS (Management Indicator Species), 318
Mississippi sandhill crane (*Grus canadensis pulla*), 386–389
Mitoura hesseli, 382
Mniotilta varia, 337
Molothrus ater, 334
Moose (*Alces alces*), 254
Moschus chrysogaster, 269
Mountain ash (*Pyrus americana*), 381
Mountain lion (*Felis concolor*), 89, 337
Mountain maple (*Acer spicatum*), 381
Mountain paper birch (*Betula cordifolia*), 381
Mourning doves (*Zenaidura macroura*), 334
Mourning warblers (*Oporornis philadelphia*), 337
Mule deer (*Odocoileus hemionus*), 89
Multiflora rose (*rosa multiflora*), 335–336
Musk ox (*Ovibos moschatus*), 16, 269
Mustela eversmanni, 67, 246
Mustela frenata, 67
Mustela nigripes
canine distemper and, 66–72
molecular genetic data, 246
Mustela putorius furo, 67
Mustela vison, 67, 253, 254
Mycobacterium tuberculosis, 71
Myiarchus crinitus, 336

National Audubon Society, 13–14
National Biological Diversity Conservation and Environmental Research Act (H.R. 4335), 236, 311–313
National Center for Biological Diversity, 311–312
National Environmental Policy Act, 312
National Forest Management Act of 1976, 399
National Parks and Conservation Association, 399
National Park Service, 235, 399
National Park system, 18, 399
National Science Foundation, 235
Natterjack toad (*Bufo calamita*), 251
Nature reserves
climatic change and, 391–393
direct and indirect gradient analysis of, 206–215
disease and, 29

recommendations for, 382
Nematodes
host reproduction and, 45
host survival and, 42–45
Nest predation, 341
New Zealand
game ranching in, 18
nature reserve design, direct and indirect gradient analysis for, 206–215
wildlife protection in, 21
Nicaragua, Association of Biologists and Ecologists (ABEN), 10
Night parrot (*Geopsittacus occidentalis*), 396
North America, wildlife conservation in, 16–18
North American Interdisciplinary Wilderness Conference, 314
Norther bobwhites (*Colinus virginianus*), 336
Northern bog lemming (*Synaptomys borealis*), 392
Northern cardinal (*Cardinalis cardinalis*), 335
Northern elephant seals (*Mirounga anqustirostris*), 269
Northern fur seal (*Callorhinus ursinus*), 261
Northern parula warbler (*Parula americana*), 255
Northern right whales (*Eubalaena glacialis*), 264–265
Northern short-tailed shrews (*Blarina brevicauda*), 336

Odocoileus hemionus, 89
Odocoileus virginianus. *See* White-tailed deer
Oporornis philadelphia, 337
Orangutans (*Pongo pygmaeus*), 71
Organization for Tropical Studies (OTS), 13
Oriental folk medicine markets, 19
Oryx leucoryx, 70
Osprey (*Pandion haliaetus*), 253
Otter (*Lutra canadensis*), 254
Ovenbirds (*Seiurus aurocapillus*), 336, 346
Ovibos moschatus, 16, 269
Ovis canadensis, 71

Paleoecology
biological diversity approach, 375–379
perspective in design of biological reserves, 391–393
Pandion haliaetus, 253
Paradise parrot (*Psephotus pulcherrimus*), 396
Parasites. *See also specific parasites*
biological control by, theoretical evidence of, 35
experimental population dynamics studies, 33, 35
impact on host survival, reproduction, dispersal, 52–53
in island populations, 32–33
transmission of, 53
Parula americana, 255
Parus bicolor, 336
Parus carolinensis, 336
Parus major, 189
Passerine bird species, nest parasitism by, 331
Pehuenche Hydroelectric Project, Chile, 11
Père David's deer (*Elaphurus davidianus*), 70
Peromyscus leucopus, 336
Phoca groenlandica, 269
Picea, 377
Picoides villosus, 336
Pig-footed bandicoot (*Chaeropus ecaudatus*), 396
Pig-headed duck (*Rhodonessa caryophyllacea*), 396
Pigs, feral, 8, 9
Pileated woodpecker (*Dryocopus pileatus*), 323
Pilioptila caerulea, 336, 346
Piranga rubra, 337
Pine (*pinus elliottii*), 336
Pinus edulis, 336
Pinus ponderosa, 336
Pinus resinosa, 381
Pinus strobus, 381
Pinyon-juniper, 336
Pinyon pine (*pinus edulis*), 336
Plagiorchis noblei, 42
Plagiorhynchus cylindraceus, 42
Plants. *See also specific plants*
changes during past 1,000 years, 378–379
communities of, past changes related to biologic diversity, 376–377
environmental relationships, biological diversity and, 377–378
photosynthesis, acid rain and, 255
response surfaces of, 377–378
transport to regions outside native ranges, 8–9
Plasmodium relictum capistranode, 71
Platanus racemosa, 76
Pleistocene refuge model, 391–392
Poeciliopsis occidentalis, 161–165, 168–169
Ponderosa pine (*Pinus ponderosa*), 336
Pontifical Academy of Sciences, 10
Population
long-term monitoring of, for bay checkerspot butterfly, 367–373
trends, vertebrates as indicators for, 318–319
turnover, of indicator species, 321
Population genetics, in conservation, 245–247
Populus spp., 381
Prarie dog (*Cynomys ludovicianus*), 392
Predation, structuring of ecosystem and, 402–403
Predators
conservation of, 18
game ranching and, 19
introduction to islands, 32
market hunting and, 19
Procyon lotor, 67, 254, 320
Psephotus pulcherrimus, 396
Pteropus mariannus, Public land agencies, biological diversity and, 398–401
Pyrus americana, 381

Quercus spp., 76, 381
Quiscalus quiscula, 334

Raccoon (*Procyon lotor*), 67, 140, 254, 320
Rainbow trout *Salmo gairdneri*, 172, 173
Rainforest Alliance, fellowship in tropical agroforestry, 314

Rana temporaria, 252
Raptors, tropical, 314
Rats, parasitic biological control agents for, 35–38
Rattus exulans, 32
Rattus norvegicus, 32
Rattus rattus, 32
REDES, 10
Redfish, demand for, 16
Red fox (*Vulpes vulpes*), 67
Red maple (*Acer rubrum*), 381
Red-spruce-yellow birch (*Betula alleghaniensis*), 381
Red squirrel (*Tamiasciurus hudsonius*), 335
Red wolves (*Canis rufus*), recovery of, 139–141
Reintroduction, 132–133, 309–310
Research priorities, 235–236, 306
Resource management, indicators for, 323
Rhodonessa caryophyllacea, 396
Rhus natalensis, 11
Ring dove (Streptopelia risoria), 254
Ring-necked duck (*Aythya collaris*), 253
River systems, faunal complexity in, 153–154
Rocky Mountains, wildlife law violations in, 283–288
Roe deer (*Capreolus capreolus*), 254
Rothshild's giraffe, translocation to Kenyan National Park, 10–11
Ruffed grouse (*bonasa umbellus*), 335
Rufous bristlebird (*Dasyornis broadbenti littoralis*), 396–397
Rufous-sided Towhees, 85

Salmo clarki. *See* Cutthroat trout (Salmo clarki)
Salmo gairdneri, 172, 173
Salvelinus alpinus, 145
Salvelinus fontinalis, 172, 173
Salvia mellifera, 76
Sandhill cranes (*Grus canadensis*), 71
Savannah tsetse (*Glossina morsitans*), 63–64
Scientific Committee on Problems of the Environment (SCOPE), 8–9
Scrub jay (*Aphlocoma coerulescens*), 77
Scrub oak (*Quercus dumosa*), 76, 381
Seiurus aurocapillus, 336, 346
Setophaga ruticilla, 345–346
Siberian polecats (*Mustela eversmanni*), 67
Sika deer, 20
Silver-backed jackals, 29
Skomer, island of, 32–33
Skunk (*Mephitis mephitis*), 67
SLOSS controversy, 290–291
Smooth newt (*Triturus vulgaris*), 252
Society for Ecological Restoration and Management, 314
Society of Conservation Biology, 305–306
Song sparrows *(Melospiza melodia)*, 334
Sorex cinereus, 336
Southern elephant seals *Mirounga leonina*, 269
Southern flying squirrels (*Glaucomys volans*), 337
Southern fur seals (*Arctocephalus* spp.), 269
Southern right whales (*Eubalaena australis*), 264–265
Specialist, vs. generalist, 320–321
Sperm whales, 268–269
Sphaeridiotrema globulus, 51
Spruce (*Picea*), 377
Stanford University Center for Conservation Biology, 12
Stanley cranes (*Anthropoides paradisea*), 70–71
Statistical problems, with indicator species, 322–323
Steppe polecate (*Mustela eversmanni*), 246
Stoat, 49
Stochastic population simulation models, 6–7
Stocking experiments, 165
Strawberry guava (*Psidium cattleianum*), 9
Stream Hierarchy model, 160, 161–165
Streptopelia risoria, 254
Sturnus vulgaris, 320
Sulfur emmissions, 255–256
Summer tangers (*Pilranga rubra*), 337
Swainson's thrushes (*Catharus ustulatus*), 381
Sweetfern (*Comptonia peregrina*), 381
Sycamore (*Platanus racemosa*), 76
Sylvilagus floridanus, 335
Sylvilagus palustris, 140
Synaptomys borealis, 392
Syphacia obvelata, 45
Syphacia stroma, 32, 34

Tamiasciurus hudsonius, 335
Tamias striatus, 337, 392
Taurotragus eurycerus isaaci, 70
Taxation, on behalf of wildlife, 18
Taxidea taxus, 67
Taxodium distichum, 336
Taxus canadensis, 348, 351
Texas-style game ranch, 19
Thailand, conservation biology workshop, 12–13
The Nature Conservancy, 379–380
Thuja occidentalis, 348, 351, 381
Thylacine (*Thylancinus cynocephalus*), 396
Tiger (*Panthera tigris*), 246
Toxocara canis, 42, 45
Toxostoma rufum, 334
Translocation
  of California sea otter, 11
  of Rothschild's giraffes to Kenyan National Park, 10–11
Transmission biology, 51–52
Tribolium castaneum, 49
Tribolium confusum, 49
Trichinella pseudospiralis, 45
Trichinella spiralis, 42, 45
Trichomonas foetus, 35
Triturus vulgaris, 252
Trophy ranching, 19
Trypanosomiasis, ecological solution, 62–64
Tsetse fly (*Glossina* spp.)
  authority for eradication, 331
  eradication, 60–61
  role in development of tropical Africa, 57–64
Tsuga, 377
Tsuga canadensis, 348, 351–352
Tuberculosis, 29

Tufted titmice (*Parus bicolor*), 336
Turdus migratorius, 334
Tyrannus tyrannus, 254

"Umbrella species", 322
United States. *See also specific areas in United States*
  agencies. *See specific agencies*
  wildlife production and economics in, 22
United States Fish and Wildlife Service, 139–140, 399
  National Black-footed Ferret Recovery Plan, 11–12
United States Forest Service, 399
Urocyon cinereoargenteus, 78
Ursus arctos, 337
Usnea sp., 255

Vegetation. *See* Plants, *specific types of plants*
Venison market, in Germany, 21
Vertebrate indicator species, 316–318
  for habitat quality, 319–320
  for population trends, 318–319
  selection criteria, 320–322
  usage, practical considerations for, 322–324
Vicuna (*Vicugna vicugna*), 261
Vireo flavifrons, 346
Virginia round-leaf birch (*Betula uber*), 380
Vulpes vulpes, 67

Weasel (*Mustela frenata*), 67
Whales, exploitation of female-offspring bond, 264–268
White cedar (*Thuja occidentalis*), 348, 351, 381
White-crowned sparrow (*Zonotrichia leucocephallus*), 77
White-footed mice (*peromyscus leucopus*), 336
White-tailed deer (*Odocoileus virginianus*)
  edge effects in northern Wisconsin, 348–355
  game ranching of, 19–20
  red wolf recovery and, 140
Whooping cranes (*Grus americana*), 71
Wild animal populations. *See* Feral populations
Wild buckwheat (*Eriogonum fasciculatum*), 76
Wildebeest (*Connochaetes* sp.), 70
Wildlife communities
  changes near edges, 335–337
  definition of, 334
  protection of, 20
  recovery of, 17
Wildlife conservation
  disease and, 28–30
  future of, 24
  private vs. public control, 15–16
  threats to, 21–23
Wildlife Habitat Relationships Program, 318
Wildlife markets, in Germany, 21
Wildlife refuges, 18. *See also* Nature reserves
Willows (*Salix* spp.), 76
Winter wrens (*Troglodytes troglodytes*), 337
Wisconsin
  edge effects in, 348–355
  forest-interior birds in, 346
Wood thrushes (*Hylocichla mustelina*), 337, 346
World Conservation Strategy (WCS), 19
World Wildlife Fund, 12
Wyoming, canine distemper and black-footed ferrets in, 67–70

Yellow-breasted chats (*icteria virens*), 334
Yellowstone National Park, 399
Yellow-throated vireo (*Vireo flavifrons*), 346

Zenaidura macroura, 334
Zoographic models of gene flow, 158–165
Zoos, disease and, 29
Zosterops japonicus, 9

Author Index, Volume 2, 1988

Alberts AC. *See* Soulé ME
Allendorf FW. Conservation biology of fishes, 145–148. *See also* Lesicap
Allendorf FW, Leary RF. Conservation and distribution of genetic variation in a polytypic species, the cutthroat trout, 170–184
Alverson WS, Waller DM, Solheim, SL. Forests too deer: edge effects in northern Wisconsin, 348–358

Ballou JD. *See* Ralls K
Berger J, Daneke D. Effects of agricultural, industrial, and recreational expansion on frequency of wildlife law violations in the central Rocky Mountains, USA, 283–289
Bilderback DE. *See* Lesica P
Blockstein DE. U.S. legislative progress toward conserving biological diversity, 311–313
Bolger DT. *See* Soulé, ME
Bourgeron PS. Advantages and limitations of ecological classification for the protection of ecosystems, 218–219
Bowen RE. Environmental Ethics: Duties and Values in the Natural World (book review), 404–405
Bowman DB. *See* Sidle JG
Bratton SP. Minor breeds and major genetic losses, 297–299
Brownell RL, Jr. California sea otter translocation, 11
Bruce RC. *See* Stiven AE

Cary JR. *See* Temple SA
Chandrashekaran MK. The Fall of a Sparrow (book review), 222; Proceedings of the Indian Academy of Sciences-Animal and Plant Sciences-Supplement (book review), 222–223
Conway W. Editorial, 132–134
Crumpacker DW, Hodge SW, Friedley D, Gregg WP, Jr. A preliminary assessment of the status of major terrestrial and wetland ecosystems on federal and indian lands in the United States, 103–115
Csuti B. Letter to the editor, 136–137

Daneke D. *See* Berger J
DeVelice JW. *See* DeVelice, R
DeVelice RL, DeVelice JW, Park GN. Gradient analysis in nature reserve design: a New Zealand example, 206–217
Dewhurst DA. *See* Zwank PJ
Diamond J. Diversity, 121, 123
Dobson AP. Restoring island ecosystems: the potential of parasites to control introduced mammals, 31–39

Ehrenfeld D. Editorial, 4–5

Ewel JJ. To Feed the Earth: Agro-Ecology for Sustainable Development (bood review), 124–125

Friedley D. *See* Crumpacker DW

Geaghan JP. *See* Zwank PJ
Geist V. How markets in wildlife meat and parts, and the sale of hunting privileges, jeopardize wildlife conservation, 15–26
Gilpin ME. A comment on Quinn and Hastings: extinction in subdivided habitats, 290–292
Glick D. First central American environmental action conference held in Managua, Nicaragua, 10
Goodland R. World bank aids burrowing parrot project, 11
Graham RW. The role of climatic change in the design of biological reserves: the paleoecological perspective for conservation biology, 391–394
Gregg WP, Jr. *See* Crumpacker DW

Hardesty JL. *See* Jacobson SK
Harris LD. Edge effects and conservation of biotic diversity, 330–332
Hastings A. *See* Quinn JF
Hill S. *See* Soulé ME
Hodge SW. *See* Crumpacker DW
Huenneke L. SCOPE program on biological invasions: a status report, 8–10
Humphrey SR. Letter to the editor, 240–244
Hunter ML, Jr, Jacobson GL, Jr, Webb T, III. Paleoecology and the coarse-filter approach to maintaining biological diversity, 375–385

Jacobson GL, Jr. *See* Hunter ML, Jr
Jacobson SK, Hardesty JL. Diversity, 221
Jain S. Wildlife Conservation Evaluation (book review), 125–126
Janzen DH: Encyclopedia of Indian Natural History (book review), 225; Letter to the editor, 309–310
Jennersten O. Pollination in *Dianthus deltoides* (Caryophyllaceae): effects of habitat fragmentation on visitation and seed set, 359–366
Jordan CF. Letter to the editor, 137–138

Kaufman L. Marine biodiversity: the sleeping dragon, 307–308
Khoshoo TN. Plants in Danger: What Do We Know? (book review), 300

Lacy RC. A report on population genetics in conservation, 245–247
Landres PB, Verner J, Thomas JW. Ecological uses of vertebrate indicator species: a critique, 316–328
Leary RF. *See* Allendorf FW, Lesica P
Lesica P, Leary RF, Allendorf FW, Bilderback DE. Lack of genic diversity within and among populations of an endangered plant, *Howellia aquatilis*, 275–282

May RM. Conservation and disease, 28–30
Meffe GK, Vrijenhoek RC. Conservation genetics in the management of desert fishes, 157–169
Miller RI. Letter to the editor, 135
Murphy DD, Weiss SB. A long-term monitoring plan for a threatened butterfly, 367–374

Newman JR. *See* Schreiber R Kent
Norton BG. The constancy of Leopold's land ethic, 93–102; Editorial, 237–238

Oldfield Margery L. Threatened mammals affected by human exploitation of the female-offspring bond, 260–274

Park GN. *See* DeVelice RL
Phillips MK, Parker WT. Red wolf recovery: a progress report, 139–141
Plotkin MJ. Pharmacopées Traditionneles en Guyane (book review), 302–303
Primack RB. The Ecology of Sulawesi (book review), 226–228; The Ecology of Sumatra (book review), 225–226

Quinn JF, Hastings A. Extinction in subdivided habitats: reply to Gilpin, 293–296

Ralls K, Ballou JD, Templeton A. Estimates of lethal equivalents and the cost of inbreeding in mammals, 185–193
Randolph SE. *See* Rogers DJ
Rogers DJ, Randolph SE. Tsetse flies in Africa: bane or boon?, 57–65

Saldanha CJ. Concise Flowers of the Himalaya (book review), 223–224
Savage JM. Wildlife Management: Crocodiles and Alligators (book review), 407
Schaff CD. Letter to the editor, 239–240
Schonewald-Cox CM. Audubon Wildlife Report 1987 (book review), 406–407
Schreiber RK, Newman R. Acid precipitation effects on forest habitats: implications for wildlife, 249–259
Scott ME. The impact of infection and disease on animal populations: implications for conservation biology, 40–56
Shaffer ML. Stochastic population simulation (letter), 6–7
Sheldon AL. Conservation of stream fishes: patterns of diversity, rarity, and risk, 149–156
Shull AM, Tipton AR. Letter to the editor, 7
Sidle JG, Bowman DB. Habitat protection under the Endangered Species Act, 116–118
Solheim SL. *See* Alverson WS
Sorice M. *See* Soulé ME
Soulé ME. Diversity, 122
Soulé ME, Bolger DT, Alberts AC, Sauvajot R, Wright J, Sorice M, Hill S. Reconstructed dynamics of rapid extinctions of chaparral-requiring birds in urban habitat islands, 75–92
Stiven AE, Bruce RC. Ecological genetics of the salamander *desmognathus quadramaculatus* from disturbed watersheds in the southern appalachian biosphere reserve cluster, 194–205
Styles BT. Botanic Gardens and The World Conservation Strategy (book review), 300–301

Temple SA, Cary JR. Modeling dynamics of habitat-interior bird populations in fragmented landscapes, 340–347
Templeton A. *See* Ralls K
Terborgh J. The big things that run the world–a sequel to EO Wilson, 402–403
Thomas JW. *See* Landres PB
Thorne ET. 1987 Black-footed ferret captive breeding season successful, 11–12
Thorne ET, Williams ES. Disease and endangered species: the black-footed ferret as a recent example, 66–74
Tipton AR. *See* Shull AM

Verner J. *See* Landres
Virmani SM. Conservation for Productive Agriculture (book review), 224
Vrijenhoek RC. *See* Meffe GK.

Waldman R. Letter to the editor, 135
Waller DM. Sharing responsibility for conserving diversity: the complementary roles of conservation biologists and public land agencies, 398–401. *See also* Alverson WS
Waweru FW. Translocation of Rothschild's giraffes to Kenyan National Parks successful, 10–11
Wayne King F. Extant unless proven extinct: the international legal precedent, 395–397
Webb T, III. *See* Hunter ML, Jr
Weiss SB. *See* Murphy DD
Wilkes G. The First Resource: Wild Species in the North American Economy (book review), 404
Williams ES. *See* Thorne ET
Woodruff DS. Conservation biology workshop held in Thailand, 12–13
Wright J. *See* Soulé ME
Wyatt-Smith J. Forest Conservation and the Forestry Master Plan for Sri Lanka: A Review (book review), 301–302

Yahner RH. Changes in wildlife communities near edges, 333–339

Zwank PJ, Geaghan JP, Dewhurst DA. Foraging differences between native and released Mississippi sandhill cranes: implications for conservation, 386–390